

In the claims:

1. (Currently amended) An ink composition, comprising:
  - from about 0.1 to 5% by weight of only one resin, the only one resin being a water-soluble polyurethane, wherein the water-solubility limit of the water-soluble polyurethane is at least 0.1% at 25°C;
  - from about 0.1 to 15% by weight of a 1,2-alkyldiol having 5-9 carbon atoms;

[[and]]

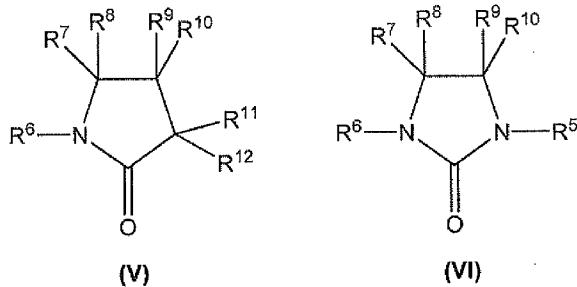
  - from about 0.5 to 6% by weight of a self-dispersed pigment; and
  - a balance being water.
2. (Previously presented) The ink composition of claim 1 wherein the self-dispersed pigment is present at a concentration in the range of about 2 to 4% by weight, the water-soluble polyurethane is present at a concentration in the range of about 0.5 to 3% by weight and the 1,2-alkyldiol is present at a concentration in the range of about 1 to 8% by weight.
3. (Original) The ink composition of claim 1 wherein the water-solubility limit of the water-soluble polyurethane is greater than about 5% at 25°C
4. (Original) The ink composition of claim 1 wherein the water-soluble polyurethane has a weight average molecular weight of less than about 15,000 Da.
5. (Original) The ink composition of claim 1 wherein the water-soluble polyurethane has an acid number in the range of about 30 to 70.
6. (Original) The ink composition of claim 1 wherein the 1,2-alkyldiol is 1,2-pentanediol.

7. (Original) The ink composition of claim 1 wherein the 1,2-alkyldiol is 1,2-hexanediol.

8. (Previously presented) The ink composition of claim 1, further comprising a water-miscible organic co-solvent or a mixture of water-miscible organic co-solvents.

9. (Original) The ink composition of claim 8 wherein the water-miscible organic co-solvent or mixture of water-miscible organic co-solvents is present at a concentration in the range of about 0.5 to 20%.

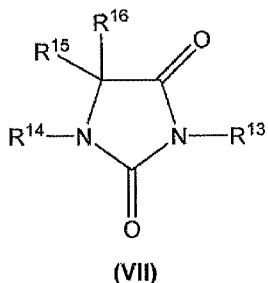
10. (Original) The ink composition of claim 8 wherein the water-miscible organic co-solvent is a 2-pyrrolidone derivative having formula (V) or an imidazolidinone derivative having formula (VI):



wherein R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup> and R<sup>12</sup> are each independently selected from the group consisting of hydrogen and C<sub>1</sub>-C<sub>6</sub> aliphatic groups; and

wherein any C<sub>1</sub>-C<sub>6</sub> aliphatic groups are optionally substituted with one or more hydroxyl groups.

11. (Original) The ink composition of claim 8 wherein the water-miscible organic co-solvent is a hydantoin derivative having formula (VII):



wherein R<sup>13</sup>, R<sup>14</sup>, R<sup>15</sup> and R<sup>16</sup> are each independently selected from the group consisting of hydrogen and C<sub>1</sub>-C<sub>6</sub> aliphatic groups; and

wherein any C<sub>1</sub>-C<sub>6</sub> aliphatic groups are optionally substituted with one or more hydroxyl groups.

12. (Original) The ink composition of claim 8 wherein the mixture of water-miscible organic co-solvents comprises a mixture of 2-pyrrolidone and di-(2-hydroxyethyl)-5,5-dimethylhydantoin.

13. (Original) The ink composition of claim 1 having a viscosity in the range of about 1.5 to 6 cps and a surface tension in the range of about 18 to 45 dynes/cm.

14. (Original) The ink composition of claim 1 having a viscosity in the range of about 2 to 3.4 cps and a surface tension in the range of about 21 to 37 dynes/cm.

15. (Original) The ink composition of claim 1 having a pH in the range of about 8 to 10.

16. (Original) The ink composition of claim 1 having a pH in the range of about 8.5 to 9.5.

17. (Original) The ink composition of claim 1 with the proviso that no surfactant is present in the ink composition.

18. (Original) A process for printing an image on a print medium comprising applying thereto an ink according to claim 1, by means of an ink-jet printer.

19. (Original) The process of claim 18 wherein the print medium is a plain paper or a coated paper.

20. (Original) An ink-jet printer cartridge containing an ink according to claim 1.

21. (Previously presented) The ink composition of claim 1 wherein the water-solubility limit of the water-soluble polyurethane is at least 10% at 25°C.

22. (Previously presented) The ink composition of claim 1 wherein the water-soluble polyurethane has a weight average molecular weight in the range of about 4,000 to 10,000 Da.

23. (Previously presented) The ink composition of claim 1 wherein the water-soluble polyurethane has a weight average molecular weight in the range of about 4,000 to 7,000 Da.

24. (Previously presented) The ink composition of claim 1 wherein the water-soluble polyurethane has an acid number in the range of about 40 to 60.

25. (Previously presented) The ink composition of claim 1 wherein the 1, 2-alkyldiol is present in an amount ranging from about 1% to about 4% by weight.